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SPECIAL DATA COLLECTION SYSTEM (SDCS) EVENT REPORT,
NOVAYA ZEMLYA, 21 OCTOBER 1975

K. J. Hill, et al

Teledyne Geotech

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13 January 1976

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SPECIAL DATA COLLECTION SYSTEM EVENT REPORT
Novaya Zemlya, 21 October 1975

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January 1976

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SDCS EVENT REPORT NO. 55

Novaya Zemlya, 21 October 1975

This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event. Published epicenter information from seismic observations is:

	"P" Arrival	Origin Time	Lat.	Long.	m_b	M_s
NORSAR	12:04:37.3	11:59:59	74 N	055 E	6.9	N/A
Hagfors	12:04:34.9	12:00:07	75 N	050 E	N/A	5.3

Using SDCS stations, LASA and NORSAR, the epicenter location and magnitudes become

11:59:57.4 72.9N 055.4E 6.5 4.8

All SDCS stations were operational during this period.

Short-period signals associated with this event were recorded at all SDCS stations, LASA and NORSAR. Horizontal SP channels at HN-ME, FN-WV, CPSO and WH2YK were rotated. At RK-ON, horizontal SP channels were not rotated because the SP transverse channel was inoperative.

Long-period signals were recorded at WH2YK, CPSO, HN-ME, FN-WV, ALPA, LASA and NORSAR. Horizontal LP channels at HN-ME, FN-WV, CPSO and WH2YK were rotated. At RK-ON the analog tape ended before arrival of the LP signal. Validity of the ALPA and NORSAR long-period vertical beams is uncertain and horizontal beams were not included because of program recovery problems. LASA long-period data are recoverable in segment lengths of 6 minutes 40 seconds; two segments are included in this report.

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of LASA and NORSAR short-period plots. LASA SP scaling factors are millimicrons per inch. Scaling factors are not reported for NORSAR short-period.

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES		ELEVATION METERS	INSTRUMENTATION	
		DEG	MN SECS		SHORT-PERIOD	LONG-PERIOD
ALPA	Alaska	65 14	00.0 N	626	None	31300
		147 44	36.0 W			
CPSO	McMinnville, Tennessee	35 35	41.4 N	574	6480 V	SL210 V
		085 34	13.5 W		7515 H	SL220 H
FN-WV	Franklin, West Virginia	38 32	58.0 N	910	KS36000	KS36000
		079 30	47.0 W			
LASA	Billings, Montana	46 41	19.0 N	744	HS10	7505A V
		106 13	20.0 W			8700C H
HN-ME	Houlton, Maine	46 09	43.0 N	213	18300	SL210 V
		067 59	09.0 W			SL220 H
NORSAR	Kjeller, Norway	60 49	25.4 N	379	HS10	7505A V
		010 49	56.5 E			8700C H
RK-ON	Red Lake, Ontario	50 50	20.0 N	366	18300	SL210 V
		093 40	20.0 W			SL220 H
WH2YK	White Horse, Yukon	60 41	41.0 N	853	18300	SL210 V
		134 58	02.0 W			SL220 H

Note: The orientation of the radial instruments at FN-WV is assumed to be 316° + 5° based on empirical data (event recordings). Rotation, where performed, is referenced to this azimuth and may be questionable.

HYPOCENTER DETERMINATION

INPUT FOR EVENT 21 OCT 75
12:00:00.0 73.001N 54.000E 0KM.

STA.	ARRIVAL	RESIDUALS		DIST.	AZ.
		CALC	REST		
NAO	12 04 37.3	-0.0	0.0	20.6	257.6
WH2YK	12 08 24.8	-0.1	0.0	46.9	7.0
RK-CN	12 09 26.6	-0.3	-0.2	54.7	336.3
HM-ME	12 09 29.0	-0.0	0.0	55.0	314.9
IAC	12 10 04.8	0.4	0.4	60.0	385.5
PM-WV	12 10 35.8	0.7	0.6	64.6	322.1
CPC	12 10 59.4	-0.8	-1.0	68.5	326.6

67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LCNG.	DEPTH (KM)	SDV	IT	STA
12:00:01.0	72.748N	55.727E	34. CALC	0.5	3	7
11:59:57.4	72.912N	55.436E	0. REST	0.5	3	7

CALC					REST				
2	1				2	1			
3	.	0			3	.	0		
0	0.	0	0		0	0.	0	0	
0	0	.	.	.	
0	1.	0	0		0	1.	0	0	
0	.		0		0	.		0	
0	0.	0			0	0.	0		

CHI2 COVERAGE ELLIPSE; 95 PER CENT CONF..LEVEL, SDV= 1.16
MAJOR 173.1KM. MINOR 26.4KM. AZ= 137 AREA= 14368 SQ.KM. REST

DATA SUMMARY

INPUT FOR EVENT 21 OCT 75
12:00:00.0 73.001N 54.000E 0KM.

STA.	PHASE	ARRIVAL TIME	INST.	PER	A/T	MAGNITUDE		DIB	DIST
						MP	MS		
NAO	EP	12 04 37.3	AB	0.7	9565.	6.74			20.6
NAO	LR	12 14 49.0	LPZ	15.0	1428.		5.59		20.6
AIPA	LR	12 25 56.0	LPZ	18.0	35.		4.28		41.2
WH2YK	EP	12 08 24.8	SPZ	0.7	423.	6.17			46.5
WH2YK	LR	12 29 50.0	LPZ	21.0	23.		4.15		46.5
BR-CN	EP	12 09 26.6	SPZ	0.7	9999.				
HN-ME	EP	12 09 29.0	SPZ	0.9	9999.				
HN-ME	LQ	12 32 32.0	LPT	22.0	125.				
HN-ME	LR	12 35 11.0	LPZ	20.0	83.		4.78		55.0
LAC	EP	12 10 04.8	SAB	1.0	9999.				
LAC	LR	12 38 33.0	LPZ	17.0	240.		5.28		60.0
FN-WV	EP	12 10 35.8	SPZ	0.9	9999.				
FN-WV	LQ	12 33 52.0	LPT	32.0	39.				
FN-WV	LR	12 40 36.0	LPZ	17.0	185.		5.20		64.6
CFC	EP	12 10 59.4	SPZ	0.8	9999.				
CFO	LQ	12 38 24.0	LPT	24.0	42.				
CPO	LR	12 42 15.0	LPZ	20.0	95.		4.93		68.5

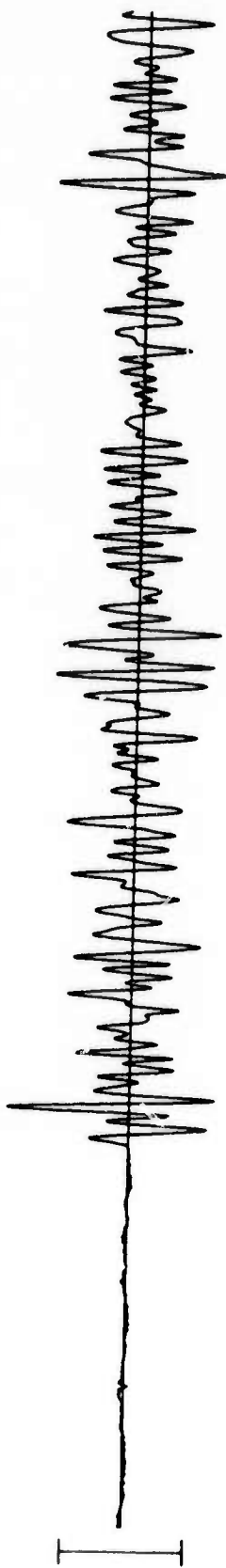
ORIGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA	LPHAG	LPSDV	LPSTA
12:00:01.0	72.748N	55.727E	34. CAIC	6.43	0.47	2	4.77	0.5	6
11:59:57.4	72.912N	55.436E	0. BEST	6.46	0.40	2	4.77	0.5	6

WH2YK 21 OCT 75

SPZ
400.04 MP



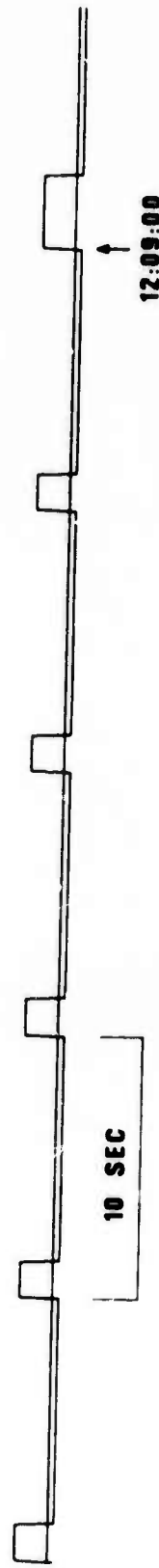
SPR
243.83 MP



SPT
171.46 MP



TIME



5<

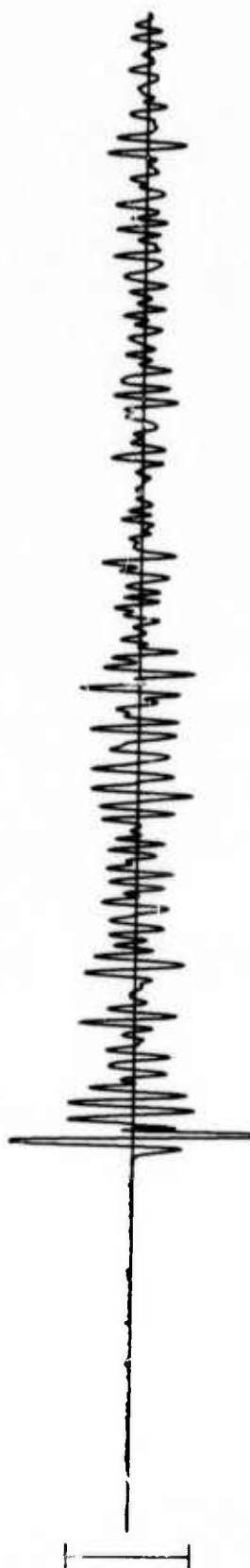
RK-ON 21 OCT 75

SPZ
710.56 MHz

12:09:26.6



SPR
756.61 MHz



SPT
INOPERATIVE

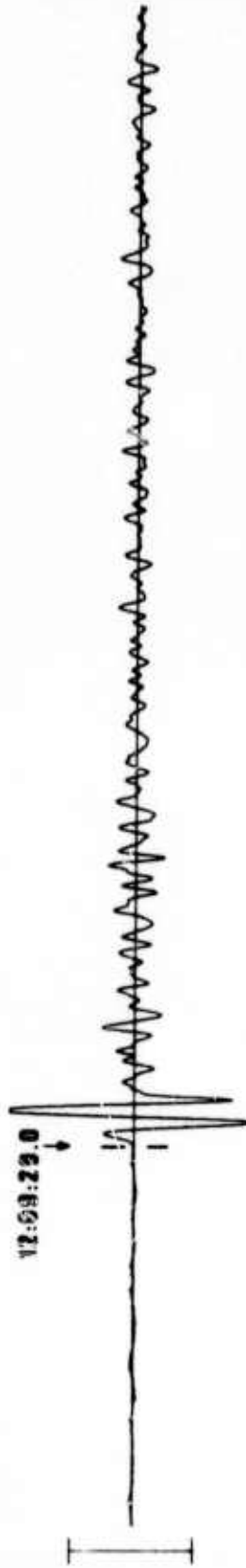


TIME



HN-ME 21 OCT 75

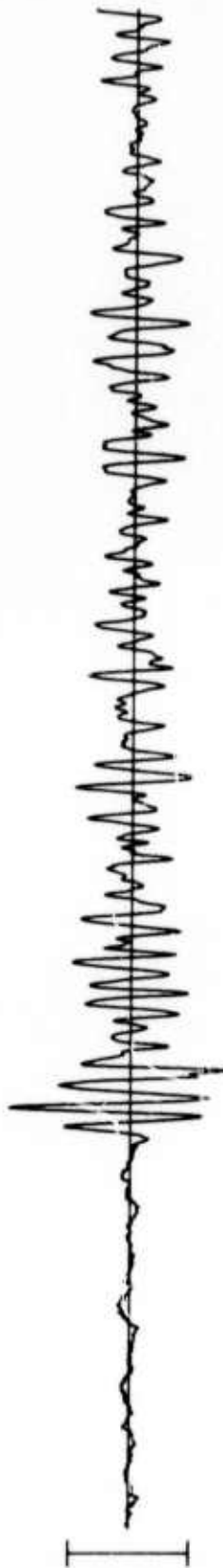
SPZ
1024.00 MP



SPR
357.84 MP



SPT
97.12 MP



TIME

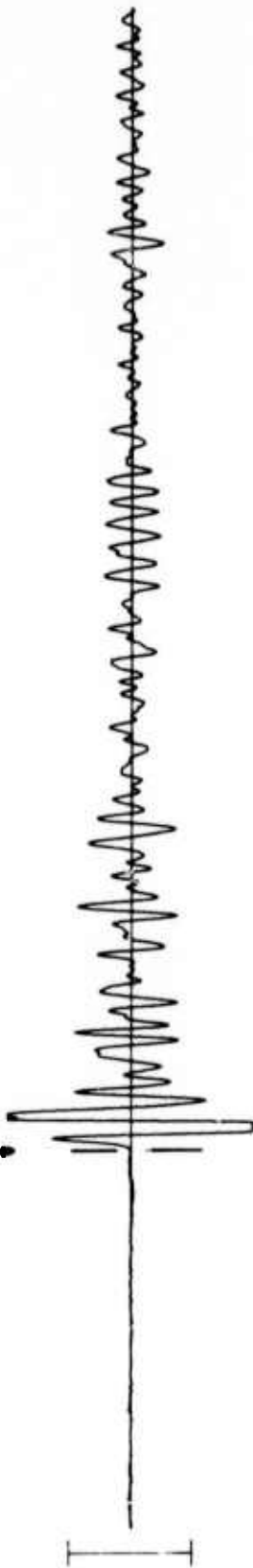


7<

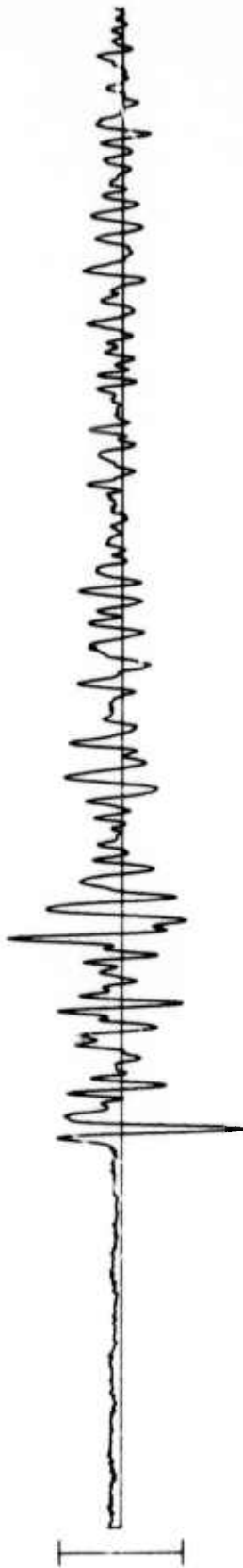
FN-WV 21 OCT 75

SPZ
407.88 MHz

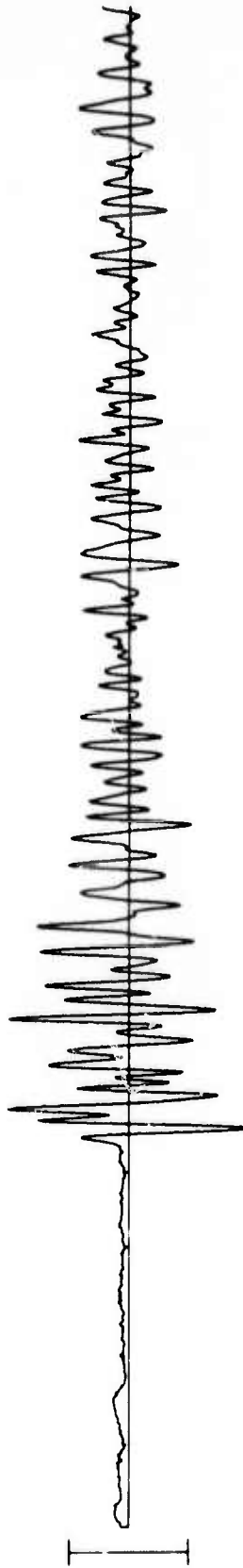
12:10:35.8



SPR
251.26 MHz



SPT
165.96 MHz



TIME



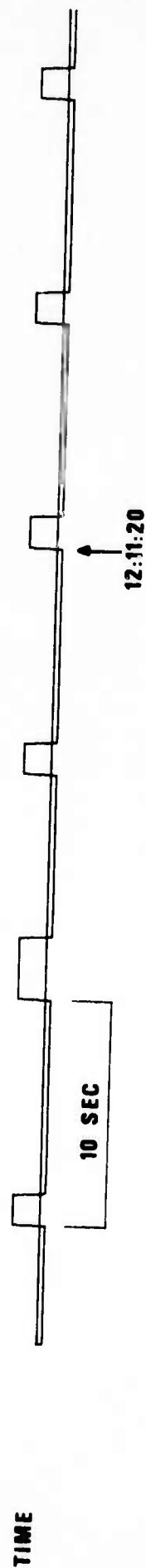
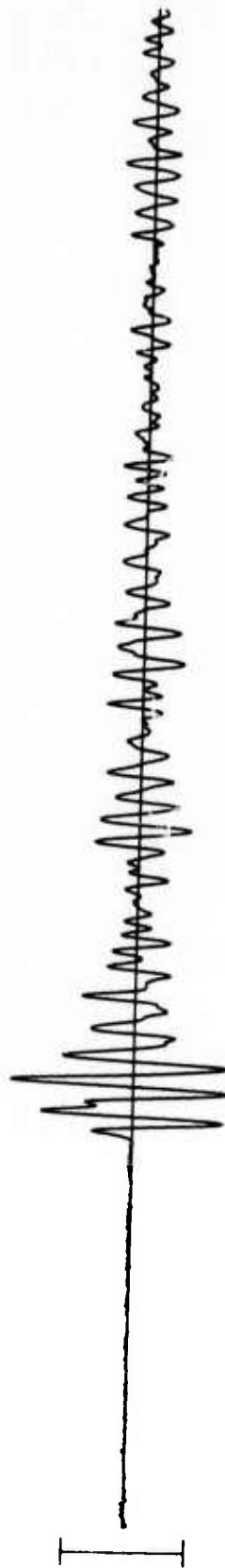
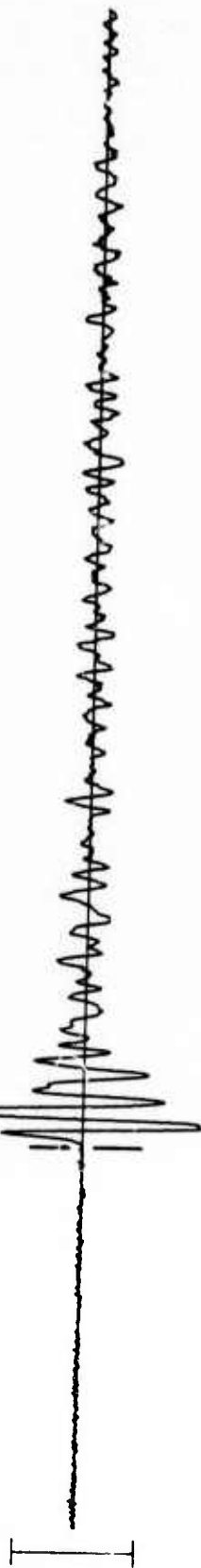
10 SEC

12:11:00

8<

CPSO 21 OCT 75

12:10:59.4



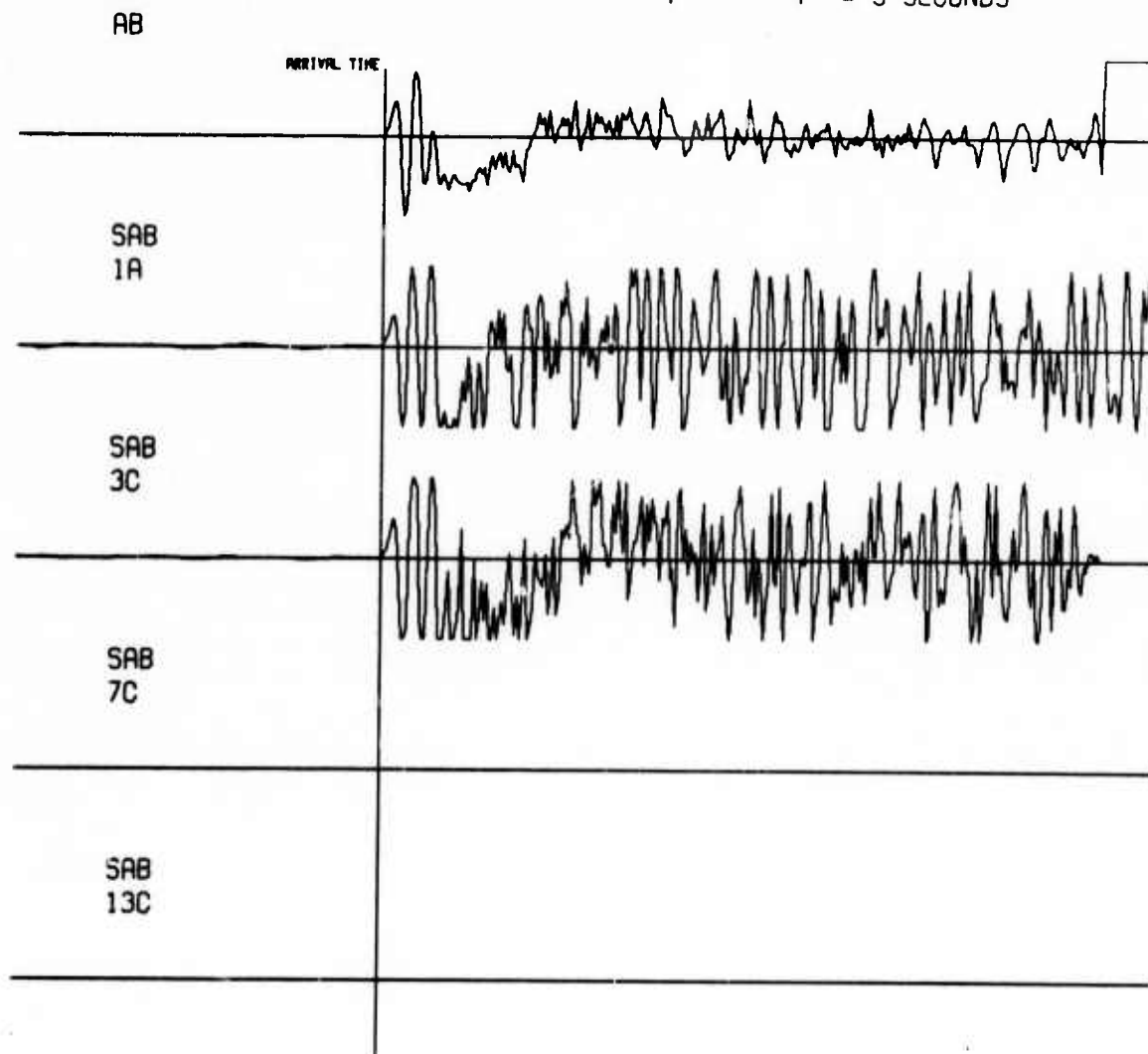
NORSAR EVENT FILE

1975 OCT 21

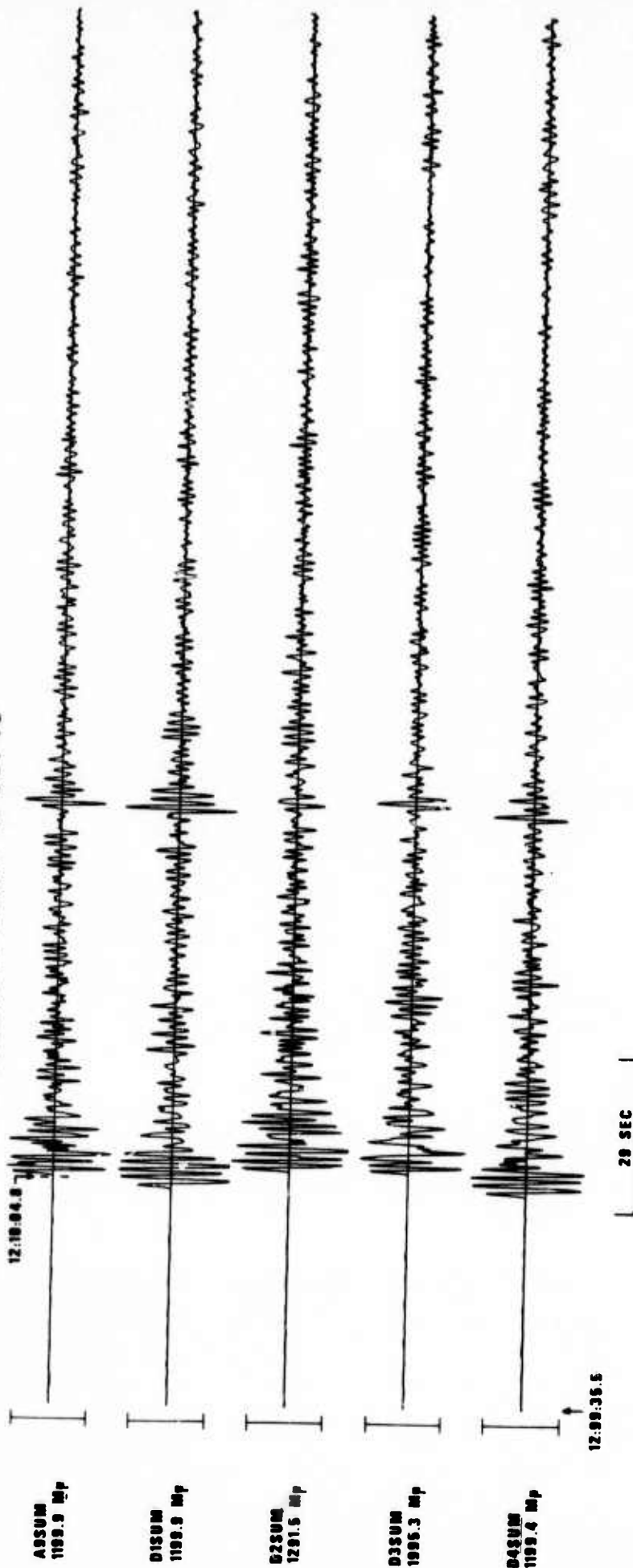
EPX NO. 26000 ARR. 12.4.37.4 73.4N 53.7E 5.2MB 33KM

DIST = 20.2 AZI = 34.4 AMP = 119.9 PER = 0.8

— = 5 SECONDS



LASA INFINITE VELOCITY SUBARRAY SUMS 21 OCT 75

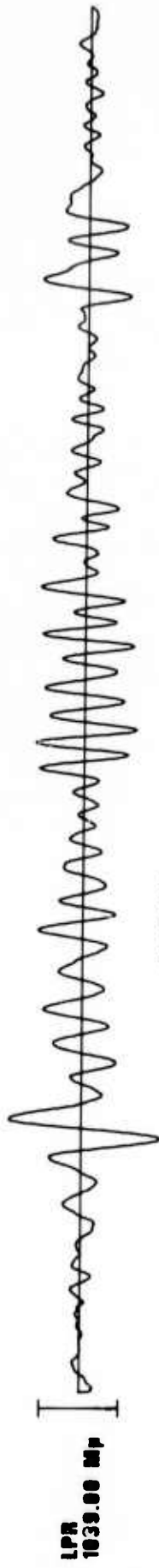


WH2YK 21 OCT 75

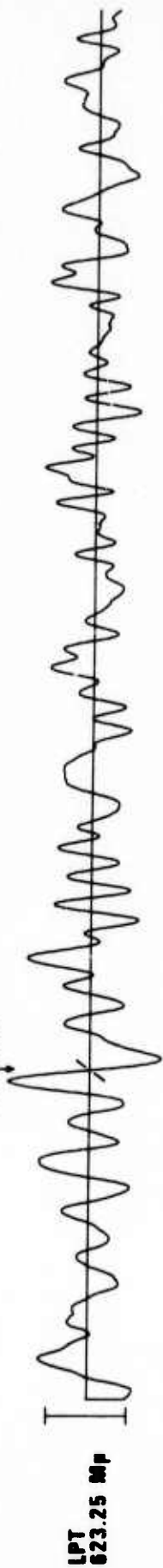
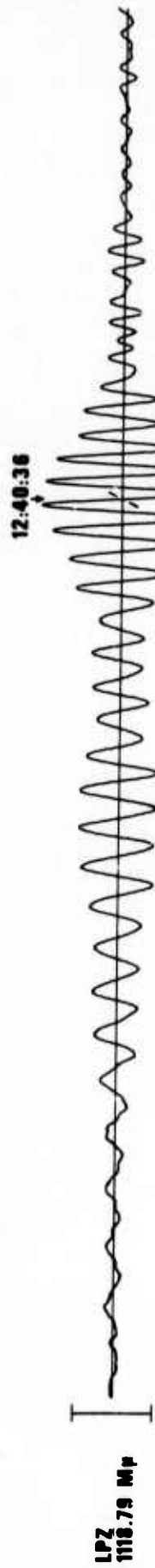


12<

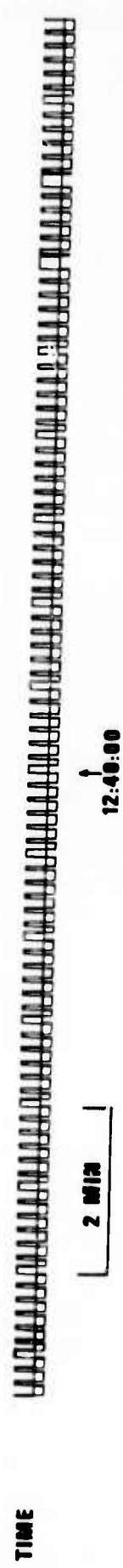
HN-ME 21 OCT 75



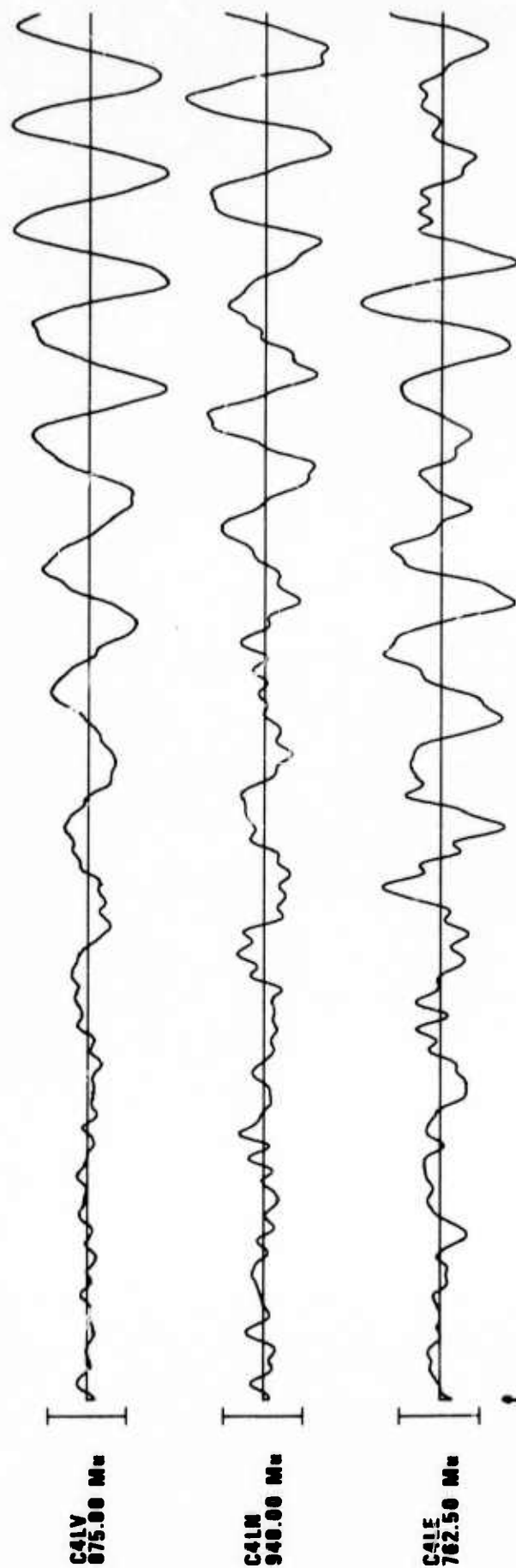
FN-WV 21 OCT 75



CPSO 21 OCT 75

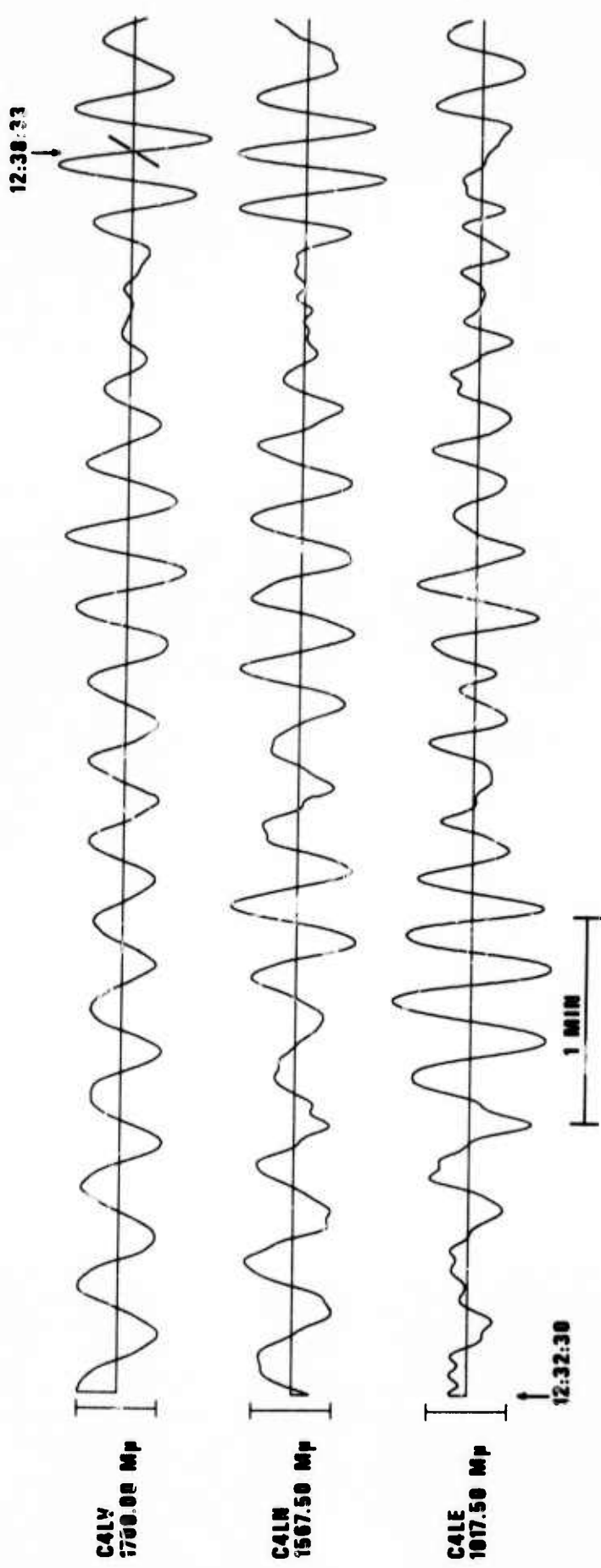


LASA LONG PERIOD C4 SUBARRAY (SEGMENT 1) 21 OCT 75



1 MIN

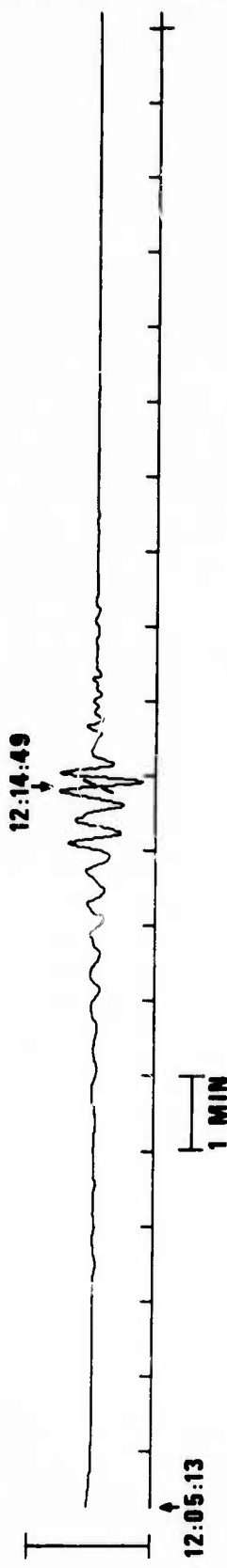
LASA LONG PERIOD C4 SUBARRAY (SEGMENT 2) 21 OCT 75



ARRAY LONG PERIOD VERTICAL BEAMS 21 OCT 75

NOISAR

LP VERTICAL
20223.54 Mμ



ALPA

LP VERTICAL
686.02 Mμ

